

Rana leithii occurs along the Western Ghats from Suriamal, Thana District (ca. 20°N. lat.) in the north through Kanheri (Bombay), Khandala and the Karla Caves to Panchgani in Satara District, which at present constitutes the southernmost limit of the species. It was nowhere found in such numbers as at Matheran, the type-locality. McCann referred to its abundance there and H.A. also saw large numbers on 18th October 1954. On the last date they were silent and no tadpoles were seen, but large numbers of adults were common on the wet rock cuttings by the railway, on wet rocks in streams flowing into Simpson's Tank, and also in short grass by the side of the same lake.

There was great variation in body colour, some being dark-grey and blackish, others paler and pink, and some with golden patches.

The species is diurnal and often seen on roads by day, many being killed by horses and rickshas and also by the light railway.

BOMBAY NATURAL HISTORY SOCIETY,

114, APOLLO STREET,

BOMBAY,

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HUMAYUN ABDULALI

J. C. DANIEL

37. EXTENSION OF RANGE OF *RANA TEMPORALIS* GUNTHER.

In October 1951 I saw a party of frogs on wet exposed rocks in a small hill stream shaded by bushes at Mahableshwar, 4,500 ft., Satara District, Bombay. My attention was first drawn to them by their calling in chorus, more reminiscent of birds than frogs. When calling two sacs show up one on each side of the throat. More were later seen in the stream at Dhobi's Waterfall which is in well-wooded country.

A specimen collected was identified as *Rana temporalis* Gunther. at the Indian Museum. This marks an appreciable extension of the known range of this species northward along the Ghats. Boulenger in 'Frogs of the Genus *Rana*', (*Rec. Ind. Mus.*, xx, 1920) gives its distribution as 'Malabar and Ceylon'. Annandale in a note in Boulenger's paper (l.c., page 160) says that the species 'is confined chiefly to edges of rock streams at no great altitudes. It sits exposed on flat rocks and stones and leaps, often for a considerable distance into the water when disturbed'. Ferguson (*JBNHS*, xv: 503) in Travancore found it only in the hills at considerable heights, and describes it as of a shy and solitary nature. Wall found it in the Nilgiris at ca. 6,000 ft. 'at some dark recess beside a mountain stream', and noted that the call was a subdued, harsh monosyllabic croak. Jerdon (*JASB*, 1853, p. 531) found them in mountain streams in forest only.

Uttangi in 'On Some Ciliate Parasites of Frogs and Tadpoles of Karnatak', Bombay Presidency, (*Rec. Ind. Mus.*, xlix, page 141, 1951) records this as rare in ponds in Dharwar, but since this species appears to be restricted to mountain streams, we cannot be quite sure how far his record is correct. In the hill streams of the district this frog probably does occur.

The tadpole of this species does not appear to have been described.

FAIZ & Co.,
75, ABDUL REHMAN STREET,
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September 24, 1954.

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[Mr. Abdulali visited Mahableshwar again 31st October to 2nd November 1954 and offers the following additional notes:

'Seen in streams on Fitzgerald Ghat, and in Blue Valley nullah. They were more common at Dhobi's Waterfall where Dinsha Panday reported having seen them in amplexus a week ago. A small pool in the course of the rocky stream held several masses of eggs attached to the bottom or sides, all a few inches below water. One or two frogs sat inside the pool and appeared to be associated with the eggs. There is some variation in the calls, but the commonest starts with a guttural croak (not unlike the call of *Rana tigrina* caught by a snake) followed by a series of *tuk-tuk-tuks*. They call both by day and night, and are quite active during the day.'—Eds.]

38. EXTENSION OF RANGE OF THE FROG *UPERODON GLOBULOSUM* GUNTH.

On June 13, 1954, H.A. visited the Kanheri Caves (ca. 1,300 ft.) near Borivli, Salsette Island, Bombay. At the entrance just outside the caves, facing west is a line of rock cisterns. In the first, which contained about 9 in. of water, were two or three large specimens of *Rana tigrina*, a few *R. breviceps* and a number of toadlike, inflated frogs floating sluggishly, flat on their bellies in the corners. One specimen was taken for identification, and on the following day it was discovered that J.C.D. had brought in the identical specimens from the same place, having obtained them an hour or two before or after H.A.!

On the night of June 16, we visited the place together and found the cistern overflowing and only four of these frogs present. They were sluggish in their movements and not easily persuaded to move either on water or on land. Though this frog can jump a couple of inches it normally walks stretching its forelegs forwards, well beyond the head. It was also impossible to turn them on their backs for the shortest moment, as with the use of their limbs, they would right themselves instantaneously.

The following observations were made on a male specimen kept alive: When placed on loose earth it sits quietly for a while, then commences to dig with its hindfeet and lowers its hind quarters into the earth with no movement visible on the surface. In a few spurts it is completely underground, the eyes disappearing last.

It refused to eat earthworms, but devoured white ants when they were immediately under its mouth. They were also flicked off the sides of its face with its tongue. White ants crawling over its face were brushed off with the foreleg. A small frog, *Microhyla ornata*, was placed